INDEX TO AUTHORS

A

Amberson, William R. Kinetics of the bioluminescent reaction in *Cypridina*. I, 517

—. Kinetics of the bioluminescent reaction in *Cypridina*. II, 535

Atchley, Dana W. See LOEB, ATCHLEY, and PALMER, 591

—. See PALMER, ATCHLEY, and LOEB, 585

B

Bellows, Margaret. See EGGERTH and BELLOWS, 669

Bright, Elizabeth M. See REDFIELD and BRIGHT, 297

Brooks, Matilda Moldenhauer. The effect of hydrogen ion concentration on the production of carbon dioxide by *Bacillus butyricus* and *Bacillus subtilis*, 177

—. The penetration of cations into living cells, 347

C

Cameron, A. T., and **Hollenberg, M. S.** The relative toxicity of the halides and certain other anions, 411

Carlson, A. J. A note on the action of curare, atropine, and nicotine on the invertebrate heart, 559

Chambers, Robert. The formation of the aster in artificial parthenogenesis, 33

—. Studies on the organization of the starfish egg, 41

Cohn, Edwin Joseph. Studies in the physical chemistry of the proteins. I. The solubility of certain proteins at their isoelectric points, 697

Cole, William H. The effect of temperature on the phototropic response of *Necturus*, 569

Coulter, Calvin B. The agglutination of red blood cells in the presence of blood sera, 403

Crozier, W. J. Cell penetration by acids. V. Note on the estimation of permeability changes, 723

—. Correspondence of skin pigments in related species of nudibranchs, 303

Cullen, Glenn E. See NORTHROP and CULLEN, 635

D

De Kruif, Paul H. Change of acid agglutination optimum as index of bacterial mutation, 387

—. The mechanism of granular growth of rabbit septicemia bacillus Type G, 395

—. See NORTHROP and DE KRUIF, 639, 655

E

Eggerth, Arnold H., and **Bellows, Margaret.** The flocculation of bacteria by proteins, 669

F

Failla, Gioacchino. See SUGIURA and FAILLA, 423
Falk, K. George. See MCGUIRE and FALK, 437
Fenn, Wallace O. The temperature coefficient of phagocytosis, 331
—. The theoretical response of living cells to contact with solid bodies, 373

G

Garrey, Walter E. The relation of respiration to rhythm in the cardiac ganglion of *Limulus polyphemus*, 149

H

Harvey, E. Newton. Studies on bioluminescence. XIV. The specificity of luciferin and luciferase, 285
Hecht, Selig. The nature of foveal dark adaptation, 113
Hitchcock, David I. The colloidal behavior of edestin, 597
—. The combination of gelatin with hydrochloric acid, 733
Hollenberg, M. S. See CAMERON and HOLLENBERG, 411
Hussey, Raymond G. The influence of x-rays on the properties of blood, 511

I

Inman, O. L. Comparative studies on respiration. XX. The cause of partial recovery, 171

L

Livingston, Marguerite B. See MACHT and LIVINGSTON, 573
Loeb, Jacques. Donnan equilibrium and the physical properties of proteins. IV. Viscosity—*continued*, 73
—. Electrical charges of colloidal particles and anomalous osmosis. I, 463
—. II. Influence of the radius of the ion, 621
—. The elimination of discrepancies between observed and calculated P.D. of protein solutions near the isoelectric point with the aid of buffer solutions, 617
—. Ionizing influence of salts with trivalent and tetravalent ions on crystalline egg albumin at the isoelectric point, 759
—. The mechanism by which trivalent and tetravalent ions produce an electrical charge on isoelectric protein, 741
—. On the influence of aggregates on the membrane potentials and the osmotic pressure of protein solutions, 769
—. The origin of the electrical charges of colloidal particles and of living tissues, 351
—. The origin of the potential differences responsible for anomalous osmosis, 213
—. Quantitative laws in regeneration. III. The quantitative basis of polarity in regeneration, 447
—. The reciprocal relation between the osmotic pressure and the viscosity of gelatin solutions, 97
— and **Loeb, Robert F.** The influence of electrolytes on the solution and precipitation of casein and gelatin, 187

Loeb, Robert F., Atchley, Dana W., and **Palmer, Walter W.** On the equilibrium condition between blood serum and serous cavity fluids, 591
—. See LOEB and LOEB, 187
—. See PALMER, ATCHLEY, and LOEB, 585

M

McGuire, Grace, and **Falk, K. George.** Banana gel, 437
Macht, David I., and **Livingston, Marguerite B.** Effect of cocaine on the growth of *Lupinus albus*. A contribution to the comparative pharmacology of animal and plant protoplasm, 573
Maxwell, S. S. Stereotropic reactions of the shovel-nosed ray, *Rhinobatus productus*, 11
—. The stereotropism of the dogfish (*Mustelus californicus*) and its reversal through change of intensity of the stimulus, 19
Mitchell, Philip H., and **Wilson, J. Walter.** The selective absorption of potassium by animal cells. I. Conditions controlling absorption and retention of potassium, 45
—, **Wilson, J. Walter,** and **Stanton, Ralph E.** The selective absorption of potassium by animal cells. II. The cause of potassium selection as indicated by the absorption of rubidium and cesium, 141
Moore, A. R. Chemical stimulation of the nerve cord of *Lumbricus terrestris*, 29
—. Stereotropic orientation of the tube feet of starfish (*Asterias*) and its inhibition by light, 163

N

Norman, G. F. See SCHMIDT and NORMAN, 681
Northrop, John H. Comparative hydrolysis of gelatin by pepsin, trypsin, acid, and alkali, 57
—. Does the kinetics of trypsin digestion depend on the formation of a compound between enzyme and substrate? 487
—. The inactivation of trypsin. I, 227
—. II. The equilibrium between trypsin and the inhibiting substance formed by its action on proteins, 245
—. III. Spontaneous inactivation, 261
—. The stability of bacterial suspensions. I. A convenient cell for microscopic cataphoresis experiments, 629
— and **Cullen, Glenn E.** An apparatus for macroscopic cataphoresis experiments, 635
— and **De Kruif, Paul H.** The stability of bacterial suspensions. II. The agglutination of the bacillus of rabbit septicemia and of *Bacillus typhosus* by electrolytes, 639
— and —. III. Agglutination in the presence of proteins, normal serum, and immune serum, 655

O

Osterhout, W. J. V. Conductivity and permeability, 1
—. Direct and indirect determinations of permeability, 275

P

Palmer, Walter W., Atchley, Dana W., and **Loeb, Robert F.** Studies on the regulation of osmotic pressure. II. The effect of increasing concentrations of albumin on the conductivity of a sodium chloride solution, 585

—. See LOEB, ATCHLEY, and PALMER, 591

Parker, G. H. The calibration of the Osterhout respiratory apparatus for absolute quantities of carbon dioxide, 689

Powers, Edwin B. The physiology of the respiration of fishes in relation to the hydrogen ion concentration of the medium, 305

R

Redfield, Alfred C., and **Bright, Elizabeth M.** The effects of radium rays on metabolism and growth in seeds. 297

S

Schmidt, Carl L. A., and **Norman, G. F.** Further studies on eosin hemolysis, 681

Smith, Edith Philip. Comparative studies on respiration. XIX. A preliminary stage in the progress of ether anesthesia, 157

Stanton, Ralph E. See MITCHELL, WILSON, and STANTON, 141

Sugiura, Kanematsu, and **Failla, Gioacchino.** Some effects of radium radiations on white mice, 423

U

Uhlenhuth, Eduard. The effect of iodine and iodothyrin on the larvæ of salamanders. IV. The rôle of iodine in the inhibition of the metamorphosis of thymus-fed salamanders, 319

—. The influence of feeding the anterior lobe of the hypophysis on the size of *Ambystoma tigrinum*, 321

W

Wilson, J. Walter. See MITCHELL and WILSON, 45

—. See MITCHELL, WILSON, and STANTON, 141

INDEX TO SUBJECTS.

A

Absorption:
Potassium, by animal cells (MITCHELL and WILSON) 45
—, — — — (MITCHELL, WILSON, and STANTON) 141
—, — — —, conditions controlling (MITCHELL and WILSON) 45
Rubidium and cesium, indicating cause of potassium selection by animal cells (MITCHELL, WILSON, and STANTON) 141

Acid:
Agglutination optimum as index of bacterial mutation (De Kruif) 387
Cell penetration (Crozier) 723
Hydrolysis of gelatin (NORTHROP) 57

Adaptation:
Dark, of fovea (HECHT) 113

Agglutination:
Acid agglutination optimum as index of bacterial mutation (DE KRUIF) 387
Bacillus of rabbit septicemia by electrolytes (NORTHROP and DE KRUIF) 639
— *typhosus* by electrolytes (NORTHROP and DE KRUIF) 639

Agglutination—*Continued:*
Bacteria, by proteins (EGGERTH and BELLOWS) 669
—, in presence of immune serum (NORTHROP and DE KRUIF) 655
—, — — of normal serum (NORTHROP and DE KRUIF) 655
—, — — of proteins (NORTHROP and DE KRUIF) 655
Erythrocyte, in presence of blood sera (Coulter) 403

Aggregates:
Membrane potentials of protein solutions, influence on, of (LOEB) 769
Osmotic pressure of protein solutions, influence on, of (LOEB) 769

Albumin:
Concentration, effect on conductivity of sodium chloride solution (PALMER, ATCHLEY, and LOEB) 585
Egg, crystalline, at isoelectric point, ionizing influence of salts with tetravalent ions (LOEB) 759
—, —, — isoelectric point, ionizing influence of salts with trivalent ions (LOEB) 759

Albus:
Lupinus, effect of cocaine on growth (MACHT and LIVINGSTON) 573

Alkali:
Hydrolysis of gelatin (NORTHROP) 57
Ambystoma:
tigrinum, influence of feeding anterior lobe of hypophysis on size (UHLENHUTH) 321
Anesthesia:
Ether (Smith) 157
Anion:
Toxicity (CAMERON and HOLLENBERG) 411
Apparatus:
Cataphoresis, macroscopic (NORTHROP and CULLEN) 635
Osterhout respiratory, calibration for absolute quantities of carbon dioxide (PARKER) 689
Aster:
Formation in artificial parthenogenesis (CHAMBERS) 33
Asterias:
Stereotropic orientation of tube feet (MOORE) 163
— — — tube feet, inhibition by light (MOORE) 163
Atropine:
Invertebrate heart, action on, of (CARLSON) 559

B

Bacillus:
butyricus, effect of hydrogen ion concentration on production of carbon dioxide by (BROOKS) 177
Septicemia, rabbit, agglutination by electrolytes (NORTHROP and DE KRUIF) 639
—, —, mechanism of granular growth of Type G (DE KRUIF) 395
Bacillus—*Continued*:
subtilis, effect of hydrogen ion concentration on production of carbon dioxide by (BROOKS) 177
typhosus, agglutination by electrolytes (NORTHROP and DE KRUIF) 639
Bacterium:
Agglutination by proteins (EGGERTH and BELLOWS) 669
Mutation, acid agglutination optimum as index of (DE KRUIF) 387
Suspensions, stability (NORTHROP) 629
—, — (NORTHROP and DE KRUIF) 639, 655
Banana:
Gel (MCGUIRE and FALK) 437
Bioluminescence:
(HARVEY) 285
Kinetics of reaction in *Cypridina* (AMBERSON) 517, 535
Blood:
Cell, red. *See* Erythrocyte.
Properties, influence of x-rays (HUSSEY) 511
Serum, agglutination of red blood cells in presence of (COULTER) 403
—, equilibrium between serous cavity fluids and (LOEB, ATCHLEY, and PALMER) 591
Buffer:
Solutions, elimination of discrepancies between observed and calculated potential difference of protein solutions near isoelectric point (LOEB) 617

Butyricus:
Bacillus effect of hydrogen ion concentration on production of carbon dioxide by (BROOKS) 177

C

Californicus:
Mustelus, reversal of stereotropism through change of intensity of stimulus (MAXWELL) 19
—, stereotropism (MAXWELL) 19

Carbon dioxide:
Osterhout respiratory apparatus, calibration for absolute quantities of (PARKER) 689
Production by *Bacillus butyricus*, effect of hydrogen ion concentration (BROOKS) 177
— — — *subtilis*, effect of hydrogen ion concentration (BROOKS) 177

Casein:
Solution and precipitation, influence of electrolytes (LOEB and LOEB) 187

Cataphoresis:
Macroscopic, apparatus (NORTHROP and CULLEN) 635
Microscopic, convenient cell for (NORTHROP) 629

Cation:
Penetration into living cell (BROOKS) 347

Cavity:
Serous, fluids, equilibrium between blood serum and (LOEB, ATCHLEY, and PALMER) 591

Cell:
Animal, selective absorption of potassium by (MITCHELL and WILSON) 45
—, — — of potassium by (MITCHELL, WILSON, and STANTON) 141
Blood, red. *See* Erythrocyte.
Living, penetration of cations into (BROOKS) 347
—, theoretical response to contact with solid bodies (FENN) 373
Penetration by acids (CROZIER) 723

Cesium:
Absorption of rubidium and, indicating cause of potassium selection by animal cells (MITCHELL, WILSON, and STANTON) 141

Chemistry:
Lumbricus terrestris, chemical stimulation of nerve cord (MOORE) 29
Physical, of proteins (COHN) 697

Chloride:
Sodium. *See* Sodium chloride.

Cocaine:
Lupinus albus, effect on growth (MACHT and LIVINGSTON) 573

Colloid:
Edestin, colloidal behavior (HITCHCOCK) 597
Electrical charges of colloidal particles and anomalous osmosis (LOEB) 463, 621
— — — colloidal particles, origin (LOEB) 351

Concentration:
Albumin, effect on conductivity of sodium chloride solution (PALMER, ATCHLEY, and LOEB) 585

Conductivity:
Permeability and (OSTERHOUT) 1
Sodium chloride solution, effect of increasing concentrations of albumin (PALMER, ATCHLEY, and LOEB) 585
Cord:
Nerve, of *Lumbricus terrestris*, chemical stimulation (MOORE) 29
Curare:
Invertebrate heart, action on, of (CARLSON) 559
Cypridina:
Bioluminescent reaction, kinetics (AMBERSON) 517, 535

D

Digestion:
Trypsin, kinetics (NORTHROP) 487
Dioxide:
Carbon. *See* Carbon dioxide.
Dogfish:
Stereotropism (Maxwell) 19
—, reversal through change of intensity of stimulus (MAXWELL) 19
Donnan:
Equilibrium. *See* Equilibrium.

E

Edestin:
Colloidal behavior (HITCHCOCK) 597
Egg:
Albumin, crystalline, at isoelectric point, ionizing influence of salts with tetravalent ions (LOEB) 759
, —, at isoelectric point, ionizing influence of salts with trivalent ions (LOEB) 759
Starfish, organization (CHAMBERS) 41
Electrical:
Charge of colloidal particles and anomalous osmosis (LOEB) 463, 621
— — — —, origin (LOEB) 351
— — living tissues, origin (LOEB) 351
— produced on isoelectric protein by tetravalent ion (LOEB) 741
— — — isoelectric protein by trivalent ion (LOEB) 741
Electrolyte:
Agglutination of bacillus of rabbit septicemia (NORTHROP and DE KRUIF) 639
— — — *typhosus* (NORTHROP and DE KRUIF) 639
Casein solution and precipitation, influence on, of (LOEB and LOEB) 187
Gelatin solution and precipitation, influence on, of (LOEB and LOEB) 187
Enzyme:
Kinetics of trypsin digestion, relation to substrate and (NORTHROP) 487
Eosin:
Hemolysis (SCHMIDT and NORMAN) 681
Equilibrium:
Blood serum and serous cavity fluids (LOEB, ATCHLEY, and PALMER) 591
Donnan, and physical properties of proteins (LOEB) 73
Trypsin and inhibiting substance formed by its action on proteins (NORTHROP) 245
Erythrocyte:
Agglutination in presence of blood sera (COULTER) 403

Ether:
Anesthesia (SMITH) 157

F

Fish:
Physiology of respiration in relation to hydrogen ion concentration of medium (POWERS) 305
Fluid:
Serous cavity, equilibrium between blood serum and (LOEB, ATCHLEY, and PALMER) 591
Fovea:
Dark adaptation (HECHT) 113

G

Ganglion:
Heart, of *Limulus polyphemus*, relation of respiration to rhythm in (GARREY) 149
Gel:
Banana (MCGUIRE and FALK) 437
Gelatin:
Hydrochloric acid, combination with, of (HITCHCOCK) 000
Hydrolysis by acid (NORTHROP) 57
— — alkali (NORTHROP) 57
— — pepsin (NORTHROP) 57
— — trypsin (NORTHROP) 57
Solution and precipitation, influence of electrolytes (LOEB and LOEB) 187
Viscosity of solutions, reciprocal relation between osmotic pressure and (LOEB) 97
Granule:
Bacillus, rabbit septicemia, mechanism of granular growth of Type G (DE KRUIF) 395
Growth:
Bacillus, rabbit septicemia, mechanism of granular growth of Type G (DE KRUIF) 395
Lupinus albus, effect of cocaine (MACHT and LIVINGSTON) 573
Seed, effects of radium rays (REDFIELD and BRIGHT) 297

H

Halide:
Toxicity (CAMERON and HOLLENBERG) 411
Heart:
Ganglion of *Limulus polyphemus*, relation of respiration to rhythm in (GARREY) 149
Invertebrate, action of atropine (CARLSON) 559
—, — — curare (CARLSON) 559
—, — — nicotine (CARLSON) 559
Hemolysis:
Eosin (SCHMIDT and NORMAN) 681
Hydrochloric acid:
Gelatin, combination of, with (HITCHCOCK) 733
Hydrogen ion:
Concentration, effect on production of carbon dioxide by *Bacillus butyricus* (BROOKS) 177
—, — — production of carbon dioxide by *Bacillus subtilis* (BROOKS) 177
— of medium, physiology of respiration of fishes in relation to (POWERS) 305

Hydrolysis:
Gelatin, by acid (NORTHROP) 57
—, — alkali (NORTHROP) 57
—, — pepsin (NORTHROP) 57
—, — trypsin (NORTHROP) 57
Hypophysis:
Anterior lobe, influence on size of *Ambystoma tigrinum* of feeding (UHLENHUTH) 321

I

Immunity:
Serum, immune, agglutination in presence of (NORTHROP and DE KRUIF) 655
Inactivation:
Trypsin (NORTHROP) 227, 245, 261
—, spontaneous (NORTHROP) 261
Inhibition:
Equilibrium between trypsin and inhibiting substance formed by its action on proteins (NORTHROP) 245
Metamorphosis of thymus-fed salamanders, rôle of iodine (UHLENHUTH) 319
Stereotropic orientation of tube feet of *Asterias*, by light (MOORE) 163
— — — tube feet of starfish, by light (MOORE) 163
Intensity:
Stereotropism of dogfish, reversal through change of intensity of stimulus (MAXWELL) 19
— — *Mustelus californicus*, reversal through change of intensity of stimulus (MAXWELL) 19
Invertebrate:
Heart, action of atropine (CARLSON) 559
—, — — curare (CARLSON) 559
—, — — nicotine (CARLSON) 559
Iodine:
Salamander larvæ, effect on, of (UHLENHUTH) 319
—, thymus-fed, rôle of iodine in inhibition of metamorphosis (UHLENHUTH) 319
Iodothyrin:
Salamander larvæ, effect on, of (UHLENHUTH) 319
Ion:
Radius (LOEB) 621
Salts with tetravalent ions, ionizing influence on crystalline egg albumin at isoelectric point (LOEB) 759
— — trivalent ions, ionizing influence on crystalline egg albumin at isoelectric point (LOEB) 759
Tetravalent, electrical charge produced on isoelectric protein by (LOEB) 741
—, ionizing influence on crystalline egg albumin at isoelectric point of salts with (LOEB) 759
Trivalent, electrical charge produced on isoelectric protein by (LOEB) 741
—, ionizing influence on crystalline egg albumin at isoelectric point of salts with (LOEB) 759
Isoelectric:
Protein, electrical charge produced by tetravalent ion (LOEB) 741
—, — — produced by trivalent ion (LOEB) 741

Isoelectric point:
Egg albumin, crystalline, ionizing influence of salts with tetravalent ions (LOEB) 759
— —, —, ionizing influence of salts with trivalent ions (LOEB) 759
Protein, solubility at (COHN) 697
— solutions near, elimination of discrepancies between observed and calculated potential difference with aid of buffer solutions (LOEB) 617

K

Kinetics:
Bioluminescent reaction in *Cypridina* (AMBERSON) 517, 535
Trypsin digestion (NORTHROP) 487

L

Larva:
Salamander, effect of iodine (UHLENHUTH) 319
—, — — iodothyrin (UHLENHUTH) 319
Light:
Stereotropic orientation of tube feet of *Asterias* inhibited by (MOORE) 163
— — — tube feet of starfish inhibited by (MOORE) 163
Limulus:
polyphemus, relation of respiration to rhythm in cardiac ganglion (GARREY) 149
Luciferase:
Specificity (HARVEY) 285
Luciferin:
Specificity (HARVEY) 285
Lumbricus:
terrestris, chemical stimulation of nerve cord (MOORE) 29
Lupinus:
albus, effect of cocaine on growth (MACHT and LIVINGSTON) 573

M

Macroscopic:
Cataphoresis, apparatus (NORTHROP and CULLEN) 635
Medium:
Hydrogen ion concentration, physiology of respiration of fishes in relation to (POWERS) 305
Membrane:
Potentials of protein solutions, influence of aggregates (LOEB) 769
Metabolism:
Seed, effects of radium rays (REDFIELD and BRIGHT) 297
Metamorphosis:
Inhibition, rôle of iodine in thymus-fed salamanders (UHLENHUTH) 319
Microscopic:
Cataphoresis, convenient cell for (NORTHROP) 629
Mustelus:
californicus, reversal of stereotropism through change of intensity of stimulus (MAXWELL) 19
—, stereotropism (MAXWELL) 19
Mutation:
Bacterial, acid agglutination optimum as index of (DE KRUIF) 387

N

Necturus:
Phototropic response, effect of temperature (COLE) 569

Nerve:
Cord of *Lumbricus terrestris*, chemical stimulation (MOORE) 29

Nicotine:
Invertebrate heart, action on (CARLSON) 559

Nudibranch:
Skin pigments (CROZIER) 303

O

Organization:
Starfish egg (CHAMBERS) 41

Orientation:
Stereotropic, of tube feet of *Asterias* (MOORE) 163
—, — — — of *Asterias*, inhibition by light (MOORE) 163
—, — — — of starfish (MOORE) 163
—, — — — of starfish, inhibition by light (MOORE) 163

Osmosis:
Electrical charges of colloidal particles and anomalous (LOEB) 463, 621
Potential differences responsible for anomalous (LOEB) 213
Pressure, osmotic, of protein solutions, influence of aggregates (LOEB) 769
—, —, reciprocal relation between viscosity of gelatin solutions and (LOEB) 97
—, —, regulation (PALMER, ATCHLEY, and LOEB) 585

Osterhout respiratory apparatus:
Carbon dioxide, calibration for absolute quantities (PARKER) 689

P

Parthenogenesis:
Artificial, formation of aster (CHAMBERS) 33

Particle(s):
Colloidal, electrical charges and anomalous osmosis (LOEB) 463, 621
—, origin of electrical charges (LOEB) 351

Penetration:
Cell, by acids (CROZIER) 723

Pepsin:
Hydrolysis of gelatin (NORTHROP) 57

Permeability:
(CROZIER) 723
Conductivity and (OSTERHOUT) 1
Determinations, direct (OSTERHOUT) 275
—, indirect (OSTERHOUT) 275

Phagocytosis:
Temperature coefficient (FENN) 331

Pharmacology:
Protoplasm, animal and plant (MACHT and LIVINGSTON) 573

Phototropism:
Necturus, effect of temperature (COLE) 569

Physics:
Chemistry, physical, of proteins (COHN) 697
Donnan equilibrium and physical properties of proteins (LOEB) 73

Physiology:
Respiration of fishes in relation to hydrogen ion concentration of medium (POWERS) 305
Pigment:
Skin, in nudibranchs (CROZIER) 303
Plant:
Protoplasm, comparative pharmacology of animal protoplasm and (MACHT and LIVINGSTON) 573
Polarity:
Quantitative basis in regeneration (LOEB) 447
Polyphemus:
Limulus, relation of respiration to rhythm in cardiac ganglion (GARREY) 149
Potassium:
Absorption, selective, by animal cells (MITCHELL and WILSON) 45
—, —, — animal cells (MITCHELL, WILSON, and STANTON) 141
—, —, — animal cells, conditions controlling (MITCHELL and WILSON) 45
Retention by animal cells, conditions controlling (MITCHELL and WILSON) 45
Selection by animal cells, cause as indicated by absorption of rubidium and cesium (MITCHELL, WILSON, and STANTON) 141
Potential:
Difference, observed and calculated, of protein solutions near isoelectric point, elimination of discrepancies with aid of buffer solutions (LOEB) 617
— responsible for anomalous osmosis (LOEB) 213
Potential—*Continued:*
Membrane, of protein solutions, influence of aggregates (LOEB) 769
Precipitation:
Casein, influence of electrolytes (LOEB and LOEB) 187
Gelatin, influence of electrolytes (LOEB and LOEB) 187
Pressure:
Osmotic, of protein solutions, influence of aggregates (LOEB) 769
—, reciprocal relation between viscosity of gelatin solutions and (LOEB) 97
—, regulation (PALMER, ATCHLEY, and LOEB) 585
Productus:
Rhinobatus, stereotropic reactions (MAXWELL) 11
Protein:
Agglutination in presence of (NORTHROP and DE KRUIF) 655
— of bacteria by (EGGERTH and BELLOWS) 669
Chemistry, physical (COHN) 669
Equilibrium between trypsin and inhibiting substance formed by its action on (NORTHROP) 245
Isoelectric, electrical charge produced by tetravalent ion (LOEB) 741
—, — — produced by trivalent ion (LOEB) 741
Physical properties and Donnan equilibrium (LOEB) 73
Solubility at isoelectric point (COHN) 697

Protein—*Continued:*
Solutions, influence of aggregates on membrane potentials (LOEB) 769
—, — — — on osmotic pressure (LOEB) 769
— near isoelectric point, elimination of discrepancies between observed and calculated potential difference with aid of buffer solutions (LOEB) 617
Protoplasm:
Animal, comparative pharmacology of plant and (MACHT and LIVINGSTON) 573
Plant, comparative pharmacology of animal and (MACHT and LIVINGSTON) 573

R

Radiation:
Radium (SUGIURA and FAILLA) 423
Radium:
Growth in seeds, effects of rays of (REDFIELD and BRIGHT) 297
Metabolism in seeds, effects of rays of (REDFIELD and BRIGHT) 297
Radiations (SUGIURA and FAILLA) 423
Ray:
Shovel-nosed, stereotropic reactions (MAXWELL) 11
Rays:
Radium, effects on growth of seeds (REDFIELD and BRIGHT) 297
—, — — metabolism of seeds (REDFIELD and BRIGHT) 297
Reaction:
Bioluminescent, in *Cypridina*, kinetics (AMBERSON) 517, 535
Reaction—*Continued:*
Stereotropic, of *Rhinobatus productus* (MAXWELL) 11
—, — shovel-nosed ray (MAXWELL) 11
Recovery:
Partial, cause (INMAN) 171
Regeneration:
Polarity, quantitative basis (LOEB) 447
Quantitative laws (LOEB) 447
Respiration:
(INMAN) 171
(SMITH) 157
Cardiac ganglion of *Limulus polyphemus*, relation of respiration to rhythm in (GARREY) 149
Osterhout apparatus, calibration for absolute quantities of carbon dioxide (PARKER) 689
Physiology, of fishes, in relation to hydrogen ion concentration of medium (POWERS) 305
Response:
Phototropic, of *Necturus*, effect of temperature (COLE) 569
Theoretical, of living cells to contact with solid bodies (FENN) 373
Retention:
Potassium, by animal cells, conditions controlling (MITCHELL and WILSON) 45
Rhinobatus:
productus, stereotropic reactions (MAXWELL) 11
Rhythm:
Cardiac ganglion of *Limulus polyphemus*, relation of respiration (GARREY) 149

Roentgen rays:
Blood, influence on properties (HUSSEY) 511
Rubidium:
Absorption of cesium and, indicating cause of potassium selection by animal cells (MITCHELL, WILSON, and STANTON) 141

S

Salamander:
Larvæ, effect of iodine (UHLENHUTH) 319
—, — — iodothyrin (UHLENHUTH) 319
Thymus-fed, rôle of iodine in inhibition of metamorphosis (UHLENHUTH) 319
Salt(s):
Ionizing influence of salts with tetravalent ions on crystalline egg albumin at isoelectric point (LOEB) 759
— — — — with trivalent ions on crystalline egg albumin at isoelectric point (LOEB) 759
Seed:
Growth, effects of radium rays (REDFIELD and BRIGHT) 297
Metabolism, effects of radium rays (REDFIELD and BRIGHT) 297
Septicemia:
Bacillus, rabbit, agglutination by electrolytes (NORTHROP and DE KRUIF) 639
—, —, mechanism of granular growth of Type G (DE KRUIF) 395
Serum:
Blood, agglutination of red blood cells in presence of (COULTER) 403
Serum—*Continued:*
Blood, equilibrium between serous cavity fluids and (LOEB, ATCHLEY, and PALMER) 591
Immune, agglutination in presence of (NORTHROP and DE KRUIF) 655
Normal, agglutination in presence of (NORTHROP and DE KRUIF) 655
Skin:
Pigments in nudibranchs (CROZIER) 303
Sodium chloride:
Conductivity of solution, effect of increasing concentrations of albumin (PALMER, ATCHLEY and LOEB) 585
Solubility:
Proteins at isoelectric point (COHN) 697
Solution:
Buffer, elimination of discrepancies between observed and calculated potential difference of protein solutions near isoelectric point (LOEB) 617
—, near isoelectric point, elimination of discrepancies between observed and calculated potential difference with aid of buffer solutions (LOEB) 617
Casein, influence of electrolytes (LOEB and LOEB) 187
Gelatin, influence of electrolytes (LOEB and LOEB) 187
—, reciprocal relation between osmotic pressure and viscosity (LOEB) 97
Protein, influence of aggregates on membrane potentials (LOEB) 769

Solution—*Continued:*
Protein, influence of aggregates on osmotic pressure (LOEB) 769
Sodium chloride, effect of increasing concentrations of albumin on conductivity (PALMER, ATCHLEY, and LOEB) 585
Specificity:
Luciferase (HARVEY) 285
Luciferin (HARVEY) 285
Starfish:
Egg, organization (CHAMBERS) 41
Stereotropic orientation of tube feet (MOORE) 163
— — — tube feet, inhibition by light (MOORE) 163
Stereotropism:
Dogfish (MAXWELL) 19
—, reversal through change of intensity of stimulus (MAXWELL) 19
Mustelus californicus (MAXWELL) 19
— —, reversal through change of intensity of stimulus (MAXWELL) 19
Orientation of tube feet of *Asterias* (MOORE) 163
— — — — — of *Asterias*, inhibition by light (MOORE) 163
— — — — — of starfish (MOORE) 163
— — — — — of starfish, inhibition by light (MOORE) 163
Ray, shovel-nosed (MAXWELL) 11
Rhinobatus productus (MAXWELL) 11
Stimulation:
Chemical, of nerve cord of *Lumbricus terrestris* (MOORE) 29
Stimulus:
Stereotropism of dogfish, reversal through change of intensity of (MAXWELL) 19
— — *Mustelus californicus*, reversal through change of intensity of (MAXWELL) 19
Substance:
Inhibiting, formed by action of trypsin on proteins, equilibrium between trypsin and (NORTHROP) 245
Substrate:
Kinetics of trypsin digestion, relation of enzyme and (NORTHROP) 487
Subtilis:
Bacillus, effect of hydrogen ion concentration on production of carbon dioxide by (BROOKS) 177
Suspension:
Bacterial, stability (NORTHROP) 629
—, — (NORTHROP and DE KRUIF) 639, 655

T

Temperature:
Coefficient of phagocytosis (FENN) 331
Necturus, effect on phototropic response (COLE) 569
Terrestris:
Lumbricus, chemical stimulation of nerve cord (MOORE) 29
Thymus:
Salamanders fed with, rôle of iodine in inhibition of metamorphosis (UHLENHUTH) 319
Tigrinum:
Ambystoma, influence of feeding anterior lobe of hypophysis on size (UHLENHUTH) 321

Tissue:
Living, origin of electrical charges (LOEB) 351
Toxicity:
Halides and other anions (CAMERON and HOLLENBERG) 411
Trypsin:
Digestion, kinetics (NORTHROP) 487
Equilibrium between trypsin and inhibiting substance formed by action on proteins (NORTHROP) 245
Hydrolysis of gelatin (NORTHROP) 57
Inactivation (NORTHROP) 227, 245, 261
Typhosus:
Bacillus, agglutination by electrolytes (NORTHROP and DE KRUIF) 639

V

Viscosity:
(LOEB) 73
Gelatin solutions, reciprocal relation between osmotic pressure and (LOEB) 97

X

X-rays:
See Roentgen rays.